

# A Tribute to Meenakshi Narain 1964-2023

Alessandro Tricoli (BNL)  
on behalf of the Snowass Energy Frontier



*P5 Town Hall  
Brookhaven National Laboratory  
April 12-14, 2023*

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# Career and Awards

- Degrees from Gorakhpur University and the Indian Institute of Technology Kanpur (IITK)
  - General Proficiency Prize for Best Outgoing Student in M.Sc. Physics, University Gold Medal on behalf of Prime Minister Indira Gandhi
  - In 2020, she was awarded the IITK distinguished alumna award
- 1984-1991, PhD at Stony Brook University, and Visiting Fellow at Cornell University
  - CUSB-II detector at CESR: spectroscopy and searches for exotic particles with photon spectra from upsilon decays, supervision of Juliet Lee-Franzini.
- 1991-1999, PostDoc then Wilson Fellow at Fermilab
  - A principal player in the top-quark discovery in the D-Zero collaboration



May 9, 1964 - January 1, 2023

- 1999, Faculty at Boston University
- 2000, Outstanding Junior Investigator Award from the U.S. DOE and NSF Faculty Early Career Development Award
- 2006, Fellow at Radcliffe Institute of Advanced Studies (Harvard), Visiting Scientist (Albert-Ludwigs-Uni., Freiburg)
- 2007, Faculty at Brown University
  - CMS experiment at the LHC: searches for physics beyond the Standard Model with top quarks, bottom and charm quark identification
- 2007, Fellow of the American Physical Society
  - "For important contributions to the measurement of the properties of the top quark"
- 2008, Career Development Award by the ADVANCE program at Brown University, Visiting Researcher (IPHC, Strasbourg)

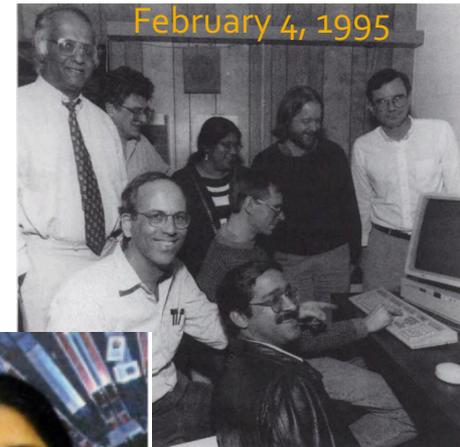
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# Leadership roles



Credit: Reidar Hahn / Fermilab

- 1995, leader of a group at D-Zero Experiment at Tevatron searching for top anti-top pair production in the di-lepton channel



- Leader of the CMS Upgrade Studies Group
- Leadership in the US CMS Outer Tracker (OT) upgrade for HL-LHC
- 2013-2016-, Co-coordinator of the LHC Physics Center (LPC) at Fermilab
- 2018-2022, Chair of the U.S. CMS Collaboration Board (*first woman*)
- Service on High Energy Physics Advisory Panel (HEPAP) of the U.S. DOE
- 2020-2022, Snowmass Energy Frontier co-convenor
- 2022, APS Committee on Minorities in Physics
- 2022, Chair of Brown University's Department of Physics (*first woman*)
- 2023 Particle Physics Project Prioritization Panel (P5) member



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# Outreach and Advocacy

- Founding co-chair of the CMS Diversity Office and the driving force behind the CMS Task Force on Diversity and Inclusion and the CMS Women's Forum
- Creator of PURSUE
  - Summer research internship at CMS for students from minority-serving institutions
- Organizer of the Conference for Undergraduate Women in Physics (CUWiP) at Brown
- Mentor and faculty advisor of the Department of Physics Women in Science and Engineering (WiSE) group and served on the University GWiSE Advisory Committee.
- Big Bang Science Fair at WaterFire, Providence
  - Intersections between science and the arts. Kids and adults of all ages participate in free, hands-on activities and discover science in our daily lives.



*"A fearless crusader for the rights of not so privileged and vocal", Ohm Shanti*

In her memory: **Meenakshi Narain Mentoring Award** (Formerly, DPF Mentoring Award) for exceptional mentoring  
<https://aps.org/about/support/narain-mentor.cfm>

Podcast: "My Journey as a Physicist"

<https://sites.google.com/msu.edu/phy480905/season-2-snowmass#h.39lw8goomxnb>

*"I value building respectful and inclusive communities, in which our passions and vision define us despite our imperfections", M. Narain*

*"If we can make people feel that science is a fun thing to do, learn and converse about, I think that could be a way to change our society.", M. Narain, Symmetry, 9/2021*

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# Snowmass Energy Frontier

The Snowmass Energy Frontier Report reflects her vision for the future of collider physics

<https://arxiv.org/abs/2211.11084>

**The Future of US Particle Physics**

**The Energy Frontier Report**

2021 US Community Study  
on the Future of Particle Physics

organized by  
the APS Division of Particles and Fields

*In memory of Meenakshi Narain,  
a friend and a colleague, who passed away on January 1, 2023.  
This report will be one of her enduring legacies,  
and a result of her guidance, leadership and vision.  
We will miss her.*

- ❖ Tremendous skill and experience at leading large groups
- ❖ An incredible knowledge of the community
- ❖ Comforting to have her backing in difficult discussions
- ❖ The person to go to for guidance and directions
- ❖ Despite the illness she worked relentlessly, and led by example with commitment and motivation
  - She deeply cared about the future of our field and the future of young generations of scientists

***Proceedings of the 2021 US Community Study on  
the Future of Particle Physics***

***(Snowmass 2021)***

***organized by the APS Division of Particles and Fields***

These proceedings are dedicated to the memory of [Meenakshi Narain](#) (1964-2023),  
in honor of her many contributions to Snowmass 2021.

- ❖ "A great scientist with a very broad view of the field, eager to share her experience but also very receptive of other people's ideas and always keen to promote young people's success", L. Reina (Snowmass EF co-convenor)

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# Personal Notes



*"She really pushed on every resource and opportunity to advance particle physics and we should all strive to impact the field the way she did", I. R. Ojalvo*

*"A brilliant scientist, a beloved mentor and an inspiring leader who made the world a better, more equitable and inclusive place", T. Bose*

*"A force of nature", everyone*

*"Having to follow meeting with children around (especially when the children are not entirely cooperative) can be stressful for parents...but Meenakshi had a way of making absolutely everyone feel welcome, and sent emails of encouragement right after the meeting that are still treasured. That kind of thoughtful support really makes a difference for the field, and inspires others to do the same following her example"*

*"I admired her passion and dedication to what she believed in as well as her passion for life, for people, for sharing good moments together", L. Reina*



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# Some Obituaries and Tributes

- Memorial Website: <https://www.forevermissed.com/meenakshi-narain/about>
- FNAL Symposium: <https://indico.fnal.gov/event/58281/>
- APS News: <https://www.aps.org/publications/apsnews/202303/narain.cfm>
- CERN News: <https://home.cern/news/obituary/cern/meenakshi-narain-1964-2023>
- Fermilab: <https://news.fnal.gov/2023/01/in-memoriam-meenakshi-narain/>
- Wikipedia: [https://en.wikipedia.org/wiki/Meenakshi\\_Narain](https://en.wikipedia.org/wiki/Meenakshi_Narain)
- ETV Bharat: <https://www.etvbharat.com/english/state/uttar-pradesh/indian-professor-meenakshi-narain-dies-in-boston-condolence-meeting-held-in-gorakhpur/na20230102210111464464223>

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